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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/810,300

03/26/2004

Shiraz M. Shivji

080803.P001

9298

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7590

07/03/2007

HEIMLICH LAW  
5952 DIAL WAY  
SAN JOSE, CA 95129

EXAMINER

NADKARNI, SARVESH J

ART UNIT

PAPER NUMBER

2629

MAIL DATE

DELIVERY MODE

07/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/810,300

**Applicant(s)**

SHIVJI, SHIRAZ M.

**Examiner**

Sarvesh J. Nadkarni

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/26/2004 and 10/17/2005</u>                                  | 6) <input type="checkbox"/> Other: ____                           |

### **DETAILED ACTION**

**This Office Action is in response to the application filed March 26, 2004, Application Number: 10/810,300 (hereinafter referred to as “application”). The application was published on March 10, 2005, Publication Number: US 2005/00523676 A1. Page and line number references made in this action relate to the originally filed application, not the publication. Receipt is acknowledged of the information disclosure statements filed on March 26, 2004 and October 17, 2005..**

#### ***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the frames and rails as disclosed in claims 25, 26, 27, and 28 must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet”

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pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Specification*

1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

2. The abstract of the disclosure is objected to because it fails to follow the guidelines above. Correction is required. See MPEP § 608.01(b).

3. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. The specification is objected to for failing to

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include section “(g) Brief Summary of the Invention” as noted in bold below. Appropriate correction is required.

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

**(g) BRIEF SUMMARY OF THE INVENTION**

**See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.**

- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A “Sequence Listing” is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required “Sequence Listing” is not submitted as an electronic document on compact disc).

4. Claim 3 is objected to because of the following informalities: there is a semicolon instead of a period at the end of the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "receiving an input display signal" does not adequately describe what object receives an input signal. However, strictly for purposes of examination, the phrase will be interpreted as meaning the LEDs receive an input signal.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 3, 4, 6, 30, 36, 37, 38, and 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Bentley United States Patent Number US 7,142,173 B2 (hereinafter referred to as "Bentley '173").

9. With regard to claim 1, Bentley '173 disclose **a method comprising: (a) positioning an array of light emitting devices (LEDs)** (see FIG. 1, element 14, further described in column 6,

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line 15, lighted array 14) **in a first position** (see column 11, lines 53-55 right most extreme of a swing cycle); **(b) moving said array of LEDs** (see column 9, lines 7-20); **(c) determining if said array of LEDs are in a given position** (see column 12, lines 13-26); **(d) receiving an input display signal** (see FIG. 6, element 74, further described in column 11, lines 45-50); **(e) energizing one or more LEDs in said array of LEDs** (see column 11, lines 15-20, and additionally FIG. 6, element 74); **(f) sensing if said array of LEDs is at an end position** (see column 11, lines 55-60); **and (g) if not at said end position repeating (b) through (f)** (see FIG. 6, illustrating column illumination between a left and right extreme position, further described in column 11, lines 46-end, and continued in column 12, lines 1-5); **and if at said end position repeating (a) through (f)** (see column 10, lines 30-50, describing various modes of display repeated).

10. With regard to claim 2, Bentley '173 discloses **the method of claim 1 wherein said positioning and moving further comprises a linear motion** (see column 11, lines 19-22).

11. With regard to claim 3, Bentley '173 discloses **the method of claim 1 wherein said energizing is based upon said received input display signal** (see column 11, lines 15-20 and additionally FIG. 6, lines 55-60)

12. With regard to claim 4, Bentley '173 discloses **the method of claim 1 wherein said array (furthermore see FIG. 11C) further comprises an array of substantially red light emitting diodes** (see column 18, lines 2-7), **an array of substantially green light emitting diodes** (see column 18, lines 2-7), **and an array of substantially blue light emitting diodes** (see column 18, lines 2-7).

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13. With regard to claim 6, Bentley '173 discloses **the method of claim 1 further comprising M said light emitting devices** (see FIG. 1 element 14) **and N said given positions** (see column 12, lines 6-26) **and said method of claim 1 is capable of producing an MxN display** (see column 12 lines 6-26).

14. With regard to claim 30, it is similarly analyzed as claim 1 above and therefore rejected under the same rationale.

15. With regard to claim 36, Bentley '173 teaches **a method for producing an MxN display** (see column 12, lines 6-26 and further displayed at FIGs. 12C and 12D), **the method comprising: moving a row of substantially linearly spaced M elements capable of light production to N positions** (see column 12, lines 6-26); **and energizing one or more of said M elements to produce said light production at one or more of said N positions** (see column 12, lines 6-26).

16. With regard to claim 37, Bentley '173 clearly teaches **a method for producing an MxN display** (see column 12, lines 6-26 and further displayed at FIGs. 12C and 12D), **the method comprising: moving M elements capable of light production to N positions** (see column 12, lines 6-26); **and energizing one or more of said M elements to produce said light production at one or more of said N positions** (see column 12, lines 6-26).

17. With regard to claim 38, Bentley '173 clearly teaches **the method of claim 37 wherein said moving further comprises moving at substantially a non-constant velocity** (the display accelerates and decelerates to create the image because the user must stop its motion to change direction at both ends of display area; furthermore, see column 3, lines 12-35).



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18. With regard to claim 39, Bentley '173 teaches **the method of claim 37 wherein said energizing further comprises energizing at substantially a non-constant time interval** (see column 3, lines 12-35).

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

20. Claims 10, 11, 12, 13, 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Brotz United States Patent Number 5,663,740 (hereinafter referred to as "Brotz '740").

21. With regard to claim 10, Brotz '740 discloses **an apparatus comprising: a linear movement stage** (see FIG. 1, elements 20 22 and 24, further described in column 4, lines 29-35); **a substrate mounted to said linear movement stage** (see FIG. 6 element 64, screen, further described in column 4, lines 54-60); **an array of light emitting devices (LEDs) attached to said substrate** (see column 2, lines 36-67); **and a controller attached to said substrate** (see column 4, lines 63-67, computer 70, depicted in FIG. 6 and is attached to display screen 64 by line 68).

22. With regard to claim 11, Brotz '740 discloses **the apparatus of claim 10 wherein said linear movement stage is capable of movement in one or more directions** (see column 4, lines 29-31).

23. With regard to claim 12, Brotz '740 discloses **the apparatus of claim 10 wherein said linear movement stage is capable of movement back and forth** (see column 4, lines 29-31).

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24. With regard to claim 13 Brotz '740 discloses **the apparatus of claim 10 wherein said controller is coupled to control illumination of zero or more LEDs of said array of LEDs** (see column 3, lines 35-end and continued at column 4, lines 1-20).

25. With regard to claim 14 Brotz '740 discloses **the apparatus of claim 13 wherein said controller is coupled to control positioning of said linear movement stage** (see column 4, lines 63-67).

26. With regard to claim 15, Brotz '740 discloses **the apparatus of claim 10 wherein said linear movement stage further comprises one or more substantially parallel rails** (see FIG. 1 rails extend from support mechanism as shown to keep movement of shaft 18 linear).

***Claim Rejections - 35 USC § 103***

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claims 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bentley '173 as applied to claims 4 and 1 above respectively, and further in view of Nobile et al., United States Patent Number 5,057,827 (hereinafter referred to as "Nobile '827").

29. With regard to claim 5, Bentley '173 clearly teaches **the method of claim 4 and light emitted from said red, green, and blue light emitting diodes**. However, Bentley fails to teach **focusing any light emitted on a projection surface**.

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30. In the same field of endeavor, Nobile '827 teaches **focusing any light emitted on a projection surface** (see column 7, lines 60-end and continued at column 8, lines 1-15, film 92; furthermore see column 8, lines 30-55, surface 214).

31. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate light projecting method as taught by Nobile '827 into the display method of Bentley '173 because the both are within the same field of endeavor and furthermore, the method as taught by Nobile '827 would result in an improved image (see Nobile '827 column 4, lines 37-46).

32. With regard to claim 7 Nobile '827 in view of Bentley '173 teaches **a machine-readable medium having stored thereon instructions** (see Nobile column 4, lines 31-36) **which when executed performs a majority of the method of claim 1** (see Bentley '173 column 8, lines 15-23, additionally in column 9, lines 7-20 and column 10 generally).

33. With regard to claim 8, it is similarly analyzed as claim 7 above and rejected on the same rationale (the **processor and memory** are taught by Nobile '827 at column 5, lines 6-16 and illustrated in FIG. 3).

34. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bentley '173.

35. With regard to claim 9, Bentley '173 teaches **method of claim 1**. However, Bentley '173 does not teach **communicating a payment and/or credit**.

36. It would have been obvious matter of design choice to modify the method to communicate a payment and/or credit since applicant has not disclosed that having such

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information displayed serves or solves any particular purpose other than its general intent of communicating information visually, as is true with all displays.

37. Claims 16, 18, 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brotz '740 and further in view of Nobile '827.

38. With regard to claim 16, Brotz '740 teaches **An apparatus for creating a display comprising: means for positioning an array of light emitting devices (LEDs)** (see column 3, lines 35-67 continued at column 4 lines 1-20 and additionally described in column 4, lines 54-end and continued in column 5, lines 1-15); **means for energizing zero or more LEDs of said array of LEDs** (see column 3, lines 35-67 continued at column 4 lines 1-20). However, Brotz '740 differs from the claimed invention in that Brotz '740 does not disclose a **means for focusing any light from said energized zero or more LEDs**.

39. In the same field of endeavor, Nobile '827 teaches **means for focusing any light from said energized zero or more LEDs** (see column 7, lines 60-end and continued at column 8, lines 1-15, film 92; furthermore see column 8, lines 30-55, surface 214).

40. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the light focusing device as taught by Nobile '827 into the display device of Brotz '740 because such focused light improves light intensity and clarity.

41. With regard to claim 18, Brotz '740 in view of Nobile '827 clearly **teaches the apparatus of claim 16 further comprising means for compensating for wear associated with**

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**said means for positioning** (see Nobile '827, column 5, 38-46 rotary member 12 uses slip rings 24 to compensate for wear).

42. With regard to claim 19, Brotz '740 in view of Nobile '827 discloses **the apparatus of claim 16 wherein said means for positioning comprises means for positioning in a substantially circular path** (see Nobile '827, column 4, lines 20-30; 360 degree sweep).

43. With regard to claim 24, Brotz '740 in view of Nobile '827 discloses **a machine-readable medium having stored thereon information representing the apparatus of claim 16** (see Nobile '827, column 5, lines 6-17).

44. Claims 17, 20, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brotz '740 in view of Nobile '827 as applied to claim 16 above, and further in view of Bentley '173.

45. With regard to claim 17, Brotz '740 in view of Nobile '827 clearly discloses **the apparatus of claim 16**. However, Brotz '740 in view of Nobile '827 does not disclose a **means for compensating for wear associated with said LEDs**.

46. In the same field of endeavor, Bentley '173 teaches a **means for compensating for wear associated with said LEDs** (see column 9, lines 34-60, power method used to turn device on during time of use).

47. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the wear compensation device as taught by Bentley '173 into the display device of Brotz '740 in view of Nobile '827 because all

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are within the same field of endeavor and furthermore conserving power consumption is a progressive goal in the art.

48. With regard to claim 20, Brotz '740 in view of Nobile '827 and further in view of Bentley '173 clearly discloses **the apparatus of claim 16 further comprising means for producing an MxN display using M LEDs in said array of LEDs and N positions** (see Bentley '173, column 12, lines 6-26).

49. With regard to claim 21, Brotz '740 in view of Nobile '827 and further in view of Bentley '173 clearly teaches the **apparatus of claim 16**. However Brotz '740 in view of Nobile '827 and further in view of Bentley '173 does not teach **means for producing an MxN display using M/2 LEDs in said array of LEDs and N positions**. (as discussed above, Bentley '173 teaches a **means for producing an MxN display using M LEDs in said array of LEDs and N positions** (see Bentley column 12 lines 6-26)).

50. It therefore would have been an obvious matter of design choice to modify using M LEDs to **using M/2 LEDs in said array of LEDs** because applicant has not disclosed that using fewer LEDs serves or solves any stated problem or is for any other particular purpose other than appearance and the device may perform equally well with less or more LEDs.

51. With regard to claim 22, it is similarly analyzed as claim 21 above and is rejected under the same rationale.

52. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brotz '740 in view of Nobile '827 and further in view of Bentley '173 as applied to claim 20 above, and

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further in view of Bell, United States Patent Number 4,470,044 (hereinafter referred to as Bell '044.

53. With regard to claim 23, Brotz '740 in view of Nobile '827 and further in view of Bentley '173 clearly discloses **the apparatus of claim 20**. However, Brotz '740 in view of Nobile '827 and further in view of Bentley '173 does not teach **creating said MxN display substantially 24 to 170 times per second**.

54. In the same field of endeavor, Bell '044 teaches creating an MxN display substantially 24-170 times per second (see Bell '044, column 5, lines 57-65).

55. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate they system as taught by Bell '44 into the display system of Brotz '740 in view of Nobile '827 and further in view of Bentley '173 because all references are within the same field of endeavor and furthermore, saccadic movement of the eye allows better perception of the image at certain image production frequencies (see Bell '044, column 2, lines 8-32) thereby improving image quality, which is a progressively common goal in the art.

56. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang, United States Patent Number 6,348,905 B1 and further in view of Brotz '740.

57. With regard to claim 25, Wang '905 discloses **an apparatus comprising a first linear movement stage** (see column 2, lines 8-18, inner frame member 2 in combination with LED display module 3) **mounted on one or more rails** (see column 2 lines 61-62, upper and lower frame parts 10, 11) **oriented in a first direction** (see column 2, lines 8-18, along a longitudinal

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axis); **a platform mounted to said first linear movement stage** (see column 2 lines 30-55, the combination of the biasing means 5, the module moving means 6, and the LED display module 3); **a second linear movement stage** (see column 2, lines 18-30, the LED display module 3) **mounted on one or more rails** (see column 2, lines 65-end and continued at column 3, lines 1-7, second supporting means 4', and rails 10, 11) **a substrate** (see column 1, lines 65-end and continued at column 2, lines 1-8, LED display module 3) **mounted to said second linear movement stage** (see FIG 1, and additionally column 2, lines 18-29, display module is mounted by support means 4, and rails 20 and 21); **and an array of light emitting devices (LEDs) attached to said substrate** (see column 1, lines 65-67 and continued at column 2, lines 1-7).

58. However, Wang '905 fails to teach **the second linear movement stage is oriented in a second direction attached to said platform.**

59. Brotz '740 teaches **the second linear movement stage is oriented in a second direction attached to said platform** (see FIG. 1, further described in column 2, lines 36-67).

60. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the linear movement platform taught by Brotz '740 into the display apparatus of Wang '905 because both are within the same field of endeavor, and because it would create and improve depth of the image produced (see Brotz '740 column 1, lines 55-67).

61. With regard to claim 26, Wang '905 in view of Brotz '740 discloses **the apparatus of claim 25 wherein said first direction and said second direction are substantially at a right angle.** (Wang '905 direction is side to side, see FIG. 1; Brotz '740 direction is in and out, see FIG. 1 which is at a 90 degree angle to the side to side).



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62. With regard to claim 27, Wang '905 in view of Brotz '740 discloses **the apparatus of claim 25 further comprising: a first moving means attached to said first linear movement stage** (see Wang '905 FIG. 1, elements 6 and further described in column 2, lines 41-48); **and a second moving means attached to said second linear movement stage** (see Brotz '740, FIG. 6 element 82, further described in Brotz '740 column 4, lines 54-67).

63. With regard to claim 28, Wang '905 in view of Brotz '740 discloses, **the apparatus of claim 27 wherein said second moving means is mounted on said platform** (see Brotz, FIG. FIG. 6 wherein shaft 72 mounts onto the screen 64).

64. With regard to claim 29, Wang '905 in view of Brotz '740 discloses **the apparatus of claim 25 further comprising one or more lenses in optical communication with said array of LEDs** (see Brotz '740, FIG. 6, element 62, is a transparent side of chamber 60; further described at column 5, lines 1-7).

65. Claims 31, 32, 33, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McEwen et al., United States Patent Number 5,192,864 (hereinafter referred to as "McEwen '864") and further in view of Conemac, United States Patent Number 6,621,609 B1 (hereinafter referred to as "Conemac '609").

66. With regard to claim 31, McEwen '864 teaches **a display apparatus comprising** (see FIG. 3 generally further described at column 2, line 55): **a plurality of movable optical sources** (see FIG. 2a and 2b, element 6 further described at column 3, lines 8-13) **capable of producing an optical output** (see FIG. 3 eyepiece 13, column 4, lines 5-13); **a lens capable of receiving and projecting the optical output** (see column 4, lines 15-20 describing a lens).

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67. However, McEwen '864 differs from the claimed invention in that McEwen '864 does not fully teach a **plurality** of moveable optical sources.

68. In the same field of endeavor, Conemac '609 teaches a **plurality** of moveable optical sources (see column 4, lines 6-12, multifaceted polygon reflector 32).

69. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate multifaceted reflector as taught by Conemac '609 into the of display device of McEwen '864 because both are within the same field of endeavor and furthermore, the additional sides reduced motor usage requirements for rotation and reflection of the image (see Conemac '609 column 2, lines 14-26).

70. With regard to claim 32, McEwen '864 in view of Conemac '609 teaches **the display apparatus of claim 31 where said lens further comprises a plurality of lenses** (see McEwen at FIG. 3 unmarked lenses between elements 9 and 11).

71. With regard to claim 33, McEwen '864 in view of Conemac '609 teaches **the display apparatus of claim 32 wherein some of said plurality of lenses is a group of microlenses in substantially close physical proximity to and optically coupled to one or more of said plurality of movable optical sources** (see McEwen '864, lenses depicted are within close proximity of each other and one lens is between elements 12 and 6).

72. With regard to claim 34, McEwen '864 in view of Conemac '609 teaches **the display apparatus of claim 33 wherein some of said plurality of lenses are lenses associated with a projection lens system** (see McEwen '864 lenses between elements 9 and 11) **for projecting said optical output onto a viewable surface** (see Conemac '609, display screen 206, column 4, lines 28-36).

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73. With regard to claim 35, McEwen '864 in view of Conemac '609 teaches **the display apparatus of claim 34 wherein said viewable surface is selected from the group consisting of a flat surface** (see Conemac '609 display screen 206, column 4, lines 28-36), **a retinal surface** (see McEwen '864 element 13, column 4, lines 1-10), **and a semi-transparent optical surface** (see Conemac column 1, lines 24-30, rear projection displays).

74. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bentley '173 as applied to claim 37 above, and further in view of NakaMats, United States Patent Number US 6,249,998 B1 (hereinafter referred to as "NakaMats '998").

75. With regard to claim 40, Bentley '173 **teaches the method of claim 37**. However, Bentley '173 fails to teach **said moving further comprises moving in a substantially non-linear direction**.

76. In the same field of endeavor, NakaMats '998 teaches **said moving further comprises moving in a substantially non-linear direction** (see FIG. 1a and 1b).

77. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have been motivated to incorporate the non-linear movement as taught by NakaMats '998 into the device of Bentley '173 because both references are within the same field of endeavor and furthermore, a non-linear motion as such would require less effort to create the hand movement (see NakaMats '998 at column 1, lines 55-67).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarvesh J. Nadkarni whose telephone number is 571-270-1541. The examiner can normally be reached on 8:00-5:00 M-Th EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-273-1550. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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SJN

  
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